



DHEC's Office of Solid Waste Reduction and Recycling

For Your Information...

Plastics 101

There are at least two absolute truths today about plastics. Plastics are versatile. Plastics are everywhere.

Plastics have the unique capability to be manufactured to meet specific needs for consumers. The versatility of plastic allows it to be used in everything from soft drink bottles to car parts, from televisions to clothing, from disposable diapers to medicine containers, from CD jackets to ketchup bottles, and from shower curtains to eating utensils. The list of products made from plastic (in whole or part) or packaged in plastic is endless.

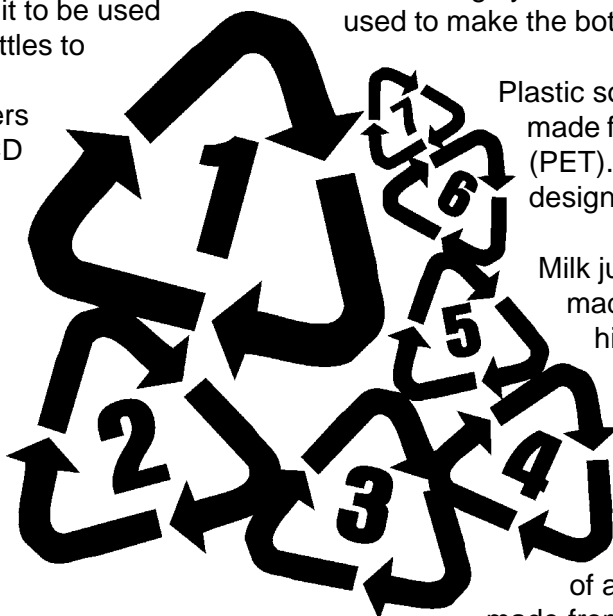
Given that, it cannot be surprising to know that plastics are a rapidly growing segment of the nation's municipal solid waste (MSW) stream. In 1960, plastics, by weight, made up an estimated 390,000 tons – or less than 1 percent – of the nation's MSW according to the U.S. Environmental Protection Agency (U.S. EPA). In 2001, plastics accounted for 25.4 million tons or 11.1 percent of the nation's total MSW.


Plastics may be found in all kinds of products, but containers and packaging (e.g., soft drink and water bottles, milk jugs as well as shampoo and laundry detergent bottles) make up a significant part of the nation's MSW.


The increased popularity of new sports drinks and bottled water has caused beverage containers – particularly plastic single-serve beverage containers – to become a rapidly growing part of the nation's MSW. Recycling of these types of bottles, however, is not keeping pace. Improving the recycling of beverage containers is a priority for many recycling programs throughout the country.



Just what does that number mean?

Did you ever notice the number surrounded by arrows on the bottom of plastic container? Do you know what the number means? The number is part of a coding system that refers to the resin that is used to make the bottle.



Plastic soft drink bottles, for example, are made from polyethylene terephthalate (PET). Bottles made from PET are designated .

Milk jugs and some water bottles are made from a different resin – high-density polyethylene (HDPE). Products made from HDPE are designated .

Overall, there are seven types of plastic resin ( through ). But more than 95 percent of all plastic bottles we use are made from either PET or HDPE.

How much plastic is recycled?

There are thousands of programs nationwide that accept plastic. Currently, there are U.S. and Asian markets that want more and more plastic. Everything is working just fine, right?

Well, not exactly. The overall recovery for plastics nationally was relatively small – about 1.4 million tons or 5.5 percent of the total generation in 2001 – according to the U.S. EPA.

The recovery of some plastic is better than others. The national recycling rate for plastic soft drink bottles was 35.6 percent while the rate for plastic milk jugs and plastic water bottles was 28.4 percent according to the U.S. EPA. But another study, done by the National Association of PET Container

Resources, said the national recycling rate of PET containers was about 19.6 percent. And there are other indicators that suggest that the recycling rates of plastics – particularly beverage containers – are falling.

Why? What's the problem?



The economics of recycling plastics don't always work well for local recycling programs. The fact that plastic weighs less than recyclables such as cardboard, steel cans or glass makes it easy to transport but creates other problems. Recyclers are paid for their material by the pound. Recycling bulky, light plastics means one truckload of material isn't always worth much. And storing enough plastic to make a trip to the recycler worthwhile can take up a lot of valuable space.





For manufacturers, new resin prices traditionally have been lower than recycled resin prices. In other words, it can be cheaper for the major soft drink companies and others to make their bottles from scratch than to make them using recycled plastic. Beverage containers are a major issue to recycling coordinators throughout the nation. Much of the concern is focused on the single-serve drinks that all of us buy at the convenience store, work and our local sporting events. Many of these containers are not being recycled.

And then there's the sheer volume of plastics. Have you gone to the grocery store lately? Do you see how many products are packaged in plastic? Consumers may remember to recycle their drink bottles, but don't always think about recycling the plastic bottles that contain their shampoo, ketchup or laundry detergent.

All bottles recycling program?



Many recycling programs nationwide target only PET and HDPE bottles – which makes perfect sense since about 95 percent of the bottles are made from those two resins. Other containers made from

resins  through  are not collected in these programs.

Recently, many programs have converted to a new approach – an all plastic bottles recycling program. This type of program does not mean that all plastic bottles are recycled, but that all bottles are collected. In most of these programs, only  and  bottles are recycled while most if not all of the remaining bottles ( through ) are disposed of in a landfill. The theory is an all plastic bottles program makes it easier for consumers to recycle and increases the recovery rate for PET and HDPE bottles. Why? Studies suggest that consumer confusion may prevent them from recycling any plastic – that if they are unsure of what can be recycled, they throw it all in the trash. Again, about 95 percent of all plastic bottles produced are PET and HDPE. The theory is that with more bottles being collected, the percentage of PET and HDPE bottles collected and ultimately recycled also will increase.

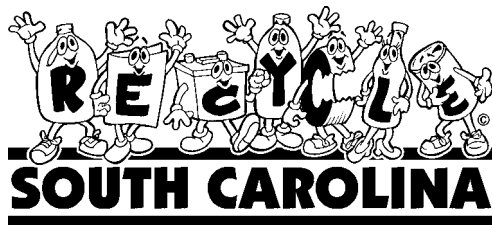
What's happening in South Carolina?

South Carolinians recycled 16,328 tons of plastics (all types) in fiscal year (FY) 2003 (July 1, 2002 – June 30, 2003) according to "The State of Recycling in South Carolina" for FY 2003.

In addition, 26 of the state's 46 counties collect  and  plastic bottles and another 12 counties collect all bottles. (For information about your local recycling program, call DHEC's Office of Solid Waste Reduction and Recycling at 1-800-768-7348 or visit www.scdhec.gov/recycle/html/counties.html.)

Recycling. It all comes back to you.

Let's start with you. Do you recycle? Do you recycle your plastics? Do you take your single-serve beverage containers back home or to work and recycle? Seemingly, plastics don't have a perceived value like aluminum or steel (food) cans to many people. Plastic bottles have value. Recycle.



Office of Solid Waste Reduction and Recycling
1-800-768-7348
www.scdhec.gov/recycle

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